

REMARKS

Claims 1-10 and 13-16 are pending. Claims 1-10 and 13-16 are rejected.

Claims 1-4, 6, 9-10, and 13-16 are rejected under 35 USC 103 (a) as being unpatentable over Hansen et al. US 5,589,256 in view of Cook et al., US 5,562,740.

Claim 5 is rejected under U.S.C. 103 (a) as being unpatentable over Hansen et al. ('256) in view of Cook et al. and further in view of Smith et al. (US 2002/0090511).

Claims 6-8 are rejected under U.S.C. 103 (a) in view of Cook et al. and further in view of Hansen et al. (5,789,326)

Claims 1-8 and 12-13 are provisionally rejected under the judicially created doctrine of obvious-type double patenting as being unpatentable over claims 1, 5-8, 10-12 and 16-17 of copending Application No. 10/748930 in view of Cook et al

The Rejection of Claims 1-4, 6-10, and 12-16 Under U.S.C. 103(a)

Claims 1-4, 6, 9-10, and 13-16 are rejected under 35 USC 103 (a) as being unpatentable over Hansen et al. US 5,589,256 in view of Cook et al., US 5,562,740.

The rejection of the Claims is respectfully traversed. Applicants submit the Examiner has not established a *prima facie* case of obviousness.

Claim 1 has been amended to recite the level of a C₄-C₁₂ polyol to be 1 to 10 % by weight of the cellulose. Support for this is on page 7, line 30-31 of the specification.

For a *prima facie* rejection, there must be a suggestion, teaching or motivation, either in the references or in the knowledge generally available to modify a reference, there must be a reasonable expectation of success, and all the claim limitations must be taught or suggested in the prior art.

The Hansen et al. ('256) invention concerns polymeric and non-polymeric binders for fibers and the use of such binders in binding particles to fibers. In particular embodiments the invention concerns binding superabsorbent particles to cellulosic fibers which may then be used, for example, to make absorbent fibers that are densified and incorporated into cellulosic products, column 1, lines 6-14.

Binders form coordinate covalent bonds or hydrogen bonds. The *binding through hydrogen bonds* of a carboxylic acid with an alcohol (R¹ could conceivably be a hydroxyl group from cellulose) is shown in the figure in column 16 lines 30-35. The binding of a

polyol to cellulose, *through hydrogen bonds* is shown in column 14, line 10 – 30. On the other hand polycarboxylic acid crosslinking agents can react with, for example, cellulose to form a covalent bond with cellulose. When this occurs, the crosslinking agent which may have been able to act as a binder also, no longer has any binding capability.

The Examiner states that Hansen et al. in the '256 reference discloses crosslinked cellulosic fibers comprising particle binders in the Abstract. For clarification, the reference in the Abstract refers to cellulose fibers that have been crosslinked with a crosslinking agent and then a binding agent added to secure particles. An example of this is in Example XIII where HBA, a high bulk intrafiber crosslinked fiber is treated with glycerin (a binder), column 28, lines 20-31. As cited by the Examiner, column 6, lines 14-23 do not refer to crosslinked fibers, rather, only to suitable cellulosic fibers to which superabsorbent particles are adhered by a binder. The reference to column 38, lines 16-28 only discloses application of chemicals such as crosslinking agents to a mat. Additional steps such as fiberizing, drying and curing are described in column 38, line 65 – column 41, line 18. Note this description does not disclose crosslinked cellulosic fibers with particle binders or crosslinking of cellulose with a crosslinking agent in the presence of a polyol, it just describes crosslinking cellulose with, for example DMDHEU or citric acid, column 38, line 35 and 36. In column 15, Hansen et al. only state that particles may be bound to the fibers by a non-polymeric organic binder selected from a predetermined group of binders each having a volatility less than water. Various non-polymeric polycarboxylic acids and polyols can be used as binders, column 16, lines 57-67. In column 20, lines 34-40, Hansen et al. state that the functionalites of non-polymeric binders may be selected from the group of glycerin (a polyol), glyoxal (a polyaldehyde), ascorbic acid (a polycarboxylic acid and a hydroxyacid), urea, (a polyamide), various polyols and urea derivatives. The same column, lines 41-61 cites twenty three subgroupings which can be used as binders.

In column 19, lines 50 – 56, and line 61, Hansen discloses that non-polymeric binders may be selected *independently* or in *combination* from the group consisting of an amino alcohol, a polycarboxylic acid, a polyol, a hydroxy acid, an amino acid, an amide and a polyamine and indicates, among others, that a polycarboxylic acid and a polyol is

one of a preferred group [*of nineteen (19) generic binders*] for binding purposes. In this context, Hansen does not state that the combination can be used in *crosslinking cellulose* rather, a polycarboxylic acid and a polyol is one of a preferred group of nineteen (19) *binders*. If, as Hansen states, the *binders* can be selected *independently* or *in combination* and *if* the binders were indeed all crosslinking agents, then a polyol such as sorbitol would show an increase in wet bulk and perhaps an increase in the Whiteness Index in the experiments in the Stoyanov Declaration which was submitted in the response dated October 9, 2006. The declaration, however, categorically proves that acyclic polyols such as sorbitol and xylitol do not crosslink as evidenced by the low bulk values and neither do they result in an increase the Whiteness Index. The fact that Hansen et al. discloses that the binders can be a combination of a polycarboxylic acid and a polyol column 19, lines 50 -56 and line 61, does not mean that any polycarboxylic acid or any polyol, if used independently, or in combination of the polyol and polycarboxylic acid in a crosslinking reaction with cellulose will yield the fiber Whiteness Index properties in the instant invention. In fact there is no motivation to try the combination since when polyols such as sorbitol and xylitol are used independently, as in the Stoyanov declaration, there is no increase in bulk but more importantly, there is no positive change in Whiteness Index (Samples H, I, sorbitol and Samples J and K, xylitol). Also, when a crosslinking agent such as citric acid (which Hansen et al. also cite as a binder) is used *independently* in preparing high bulk fibers, the bulk increases but the Whiteness Index decreases significantly as shown in the Stoyanov declaration, Sample C, where the Whiteness Index decreased to 68.69 from the control, Sample A of 78.16. Thus the skilled artisan would not look to combining a polyol which has no effect on the Whiteness Index with a polycarboxylic acid which has an adverse effect on the Whiteness Index to improve the color of crosslinked fibers since when used independently they teach away from the instant invention. Thus the increase in Whiteness Index, as shown in the Stoyanov Declaration when a polyol such as sorbitol at a level of 2 to 6 % by weight cellulose and a crosslinking agent such as citric acid are combined in the crosslinking reaction gives unexpected results. Furthermore, Hansen et al. does not disclose which species of polycarboxylic acids in combination with which species of polyols will yield the cited Whiteness Index properties in the instant invention. Also, the claimed amounts of polyols

are not cited. Thus it would not be obvious to one skilled in the art to apply the specifically claimed amounts of polyols to the fibers. Applicants submit that on this basis the prior art does not teach the identical chemical structure and therefore the fiber Whiteness Index properties the Applicants disclose are not present.

In the context of forming high bulk fiber with intrafiber covalent crosslinks, column 37, line 16 – column 42, line 63, Hansen et al. state that particle binders and particles can be added before, after, or simultaneously with curing, column 42, lines 32 and 33. Curing in the presence of a binder is not usually a problem because the binder cannot participate in the intra fiber crosslinking reaction and the binder is not affected by the curing step. In certain situations, however, the binder can function as a crosslinking agent and form covalent intrafiber crosslinks. This must be read in the context of Example XXVI, column 41, line 24-33 where it is stated that *dimethyloldihydroxyethylene urea* is used as a crosslinking agent. Later in the same context Hansen et al. state that *polycarboxylic acids (such as citric) polyols (such as propylene glycol) and polyamines (such as ethylene diamine)* can function as crosslinking agents and are consumed during the curing step in the formation of covalent crosslinking agents, column 42, lines 39-43. Note that Hansen et al. do not state that *combinations* of polyols, polycarboxylic acids and polyamines can be used for crosslinking rather, that these materials, independently, can function as crosslinking agents. Accordingly in the limited case in which the crosslinking agent is also a binder, steps should be taken to prevent the binder from being consumed as a crosslinker in the step thus maintaining its binding ability. (Here again Hansen et al. do not state *combinations of binders* are used). Hansen et al. state that the fibers should contain at least 20 % by weight water to inhibit ester bond formation during curing so that adequate *binder* will remain in the fibers to bind the particles to the fibers, column 42, lines 50- 63. Stated in another way, crosslinking with the binder destroys the binder and makes it unavailable to bind the particles, the very object of the Hansen et al. reference and therefore the skilled artisan would not look to the Hansen et al. reference for crosslinking which makes his invention inoperative. Applicants submit that even in these situations where the binder may act as a crosslinking agent, Hansen et al. do not teach the combination of a crosslinking agent

and a polyol in the intrafiber crosslinking reaction to arrive at the instant invention of Claim 1. Neither do Hansen et al. disclose which polyol is in combination with which polycarboxylic acid and the amount of polyol as in the instant invention. Furthermore, Hansen et al. is only an invitation to virtual endless experimentation. Hansen et al. give no guidance to the skilled artisan as to which binders or combination of binders from the group to select to achieve the instant invention. While Hansen et al. state that polyols, polyaldehydes, polycarboxylic acids and polyamines *can* crosslink, there is no guidance given as to which genus or species within the genus, in combination, can crosslink to arrive at the instant invention. Thus the skilled artisan would be required to perform virtually endless experimentation to arrive at the instant invention.

In a counterpart patent by Hansen et al, US 6,340,411, which the Examiner cited in the previous Office Action of July 7, 2006, it was shown in the response of October 5, 2006 that, for example, of the 22 compounds listed in column 4, lines 52-60, of the '411 patent that 231 experiments would have to be conducted to determine which compounds crosslinked and further which combination of compounds would function to arrive at the claimed invention. This is based on the formula $n! / (k! * (n-k)!)$ where n is the number of compounds, and k is the number in each combination, i.e. 2. Thus substituting the numbers the formula is $22! / (2! * (22-2)!)$ or 231 experiments would have to be conducted to determine which compounds crosslink and which compounds, in combinations of two, would give the instant invention. If sorbitol, glycerin, propylene glycol, and mixtures thereof, mentioned in column 59, lines 30 and 31 were included for a total of 25 compounds and mixtures of the compounds then 300 experiments would have to be conducted to determine which compounds, in combination, could be used to arrive at the instant invention. Similar arguments hold in the case of the '256 patent except that the number of binders or combination of binders is different.

The '256 patent does not require either the binder or the crosslinking agent to be a polyol as do the instant claims which require a crosslinking agent and a polyol. In addition, the Stoyanov declaration shows that some polyols such as sorbitol and xylitol do not crosslink at the levels claimed.

The Examiner states that the Hansen et al. reference teaches that crosslinked fibers have a wet bulk of 16.1 g/cc or greater, column 29, lines 1-10. Applicants point out that the HBA is not cellulose fibers crosslinked with a crosslinking agent in the presence of a polyol to yield the bulk cited in the invention, rather, it is just cellulose crosslinked with a single crosslinking agent. The column 42, line 66 –column 43, line 9 reference states that absorbent structures made from the fibers with binder and adhered particles can be used in making diapers, sanitary napkins, incontinent pads, towels etc. Applicants submit here is no reference to the use of crosslinked fibers which result from the crosslinking of cellulose with a crosslinking agent in the presence of a polyol.

Furthermore, Hansen et al. do not disclose bleaching the fibers, the Whiteness Index or the brightness of the fibers.

Cook et al. teach bleaching of polycarboxylic acid crosslinked fibers to improve brightness and reduce odor but do not teach the use of a polyol during the crosslinking reaction to improve Whiteness Index, including the L value. The reference teaches a two step process, first crosslinking cellulose fibers then bleaching to improve brightness and reduce odor. Cook et al state that, unfortunately, citric acid, the preferred crosslinking agent can cause discoloring of the white cellulose fibers when treated at elevated temperatures. In addition, unpleasant odors can be associated with the use of alpha-hydroxy polycarboxylic acids such as citric acid.

Cook does not teach the bleaching of cellulose fibers crosslinked with a crosslinking agent in the presence of a 1-10 % by weight polyol on cellulose nor does he teach the Whiteness Index increase of at least one unit over the same unbleached fibers which have a Whiteness Index of at least 70. Cook only teaches that bleaching of the crosslinked fibers can improve brightness to 80- 86 from 70 – 75, column 3, line 49-52.

The Hansen et al. reference does not provide a motivation to crosslink cellulose with a crosslinking agent in the presence of a polyol since when a polyol such as sorbitol and a crosslinking agent such as citric acid are used independently in a crosslinking reaction with cellulose, the Whiteness Index is adversely affected, particularly in the case of citric acid. Thus the skilled artisan would not be motivated to explore the combination yet when the combination is used, it has been surprisingly and unexpectedly discovered that Whiteness Index results are significantly increased.

The reference does not teach the type of crosslinking agent nor the type and amount of polyol as in the instant invention. Hansen et al. is only an invitation to virtual endless experimentation. Hansen et al. give no guidance to the skilled artisan as to which binders or combination of binders from the group to select to achieve the instant invention. While Hansen et al. state that polyols, polyaldehydes, polycarboxylic acids and polyamines *can* crosslink, there is no guidance given as to which genus or species within the genus, in combination, can crosslink to arrive at the instant invention. Thus the skilled artisan would be required to perform virtually endless experimentation to arrive at the instant invention. Furthermore, Hansen et al. do not disclose bleaching the fibers, the Whiteness Index, the brightness and the wet bulk. Cook et al. do not teach bleaching of cellulose fibers crosslinked with a crosslinking agent in the presence of a polyol nor the Whiteness Index increase of at least one unit over unbleached fiber prepared in a similar manner. Also, all the claim limitations are not taught.

Based on the above arguments, Applicants submit the Examiner has not established a *prima facie* case of obviousness and withdrawal of the rejection is respectfully requested.

The Rejection of Claim 5 Under U.S.C. 103(a)

Claim 5 is rejected under U.S.C. 103 (a) as being unpatentable over Hansen et al. ('256) in view of Cook et al. and further in view of Smith et al. (US 2002/0090511).

Claim 1 is an independent claim, Claim 5 is dependent on Claim 1. Applicants submit that Claim 1 is nonobvious. If an independent claim is nonobvious under 103 then any claim dependent therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5USPQ2d 1596 (Fed. Cir.1988).

The Hansen et al.('256) and Cook et al. references have been addressed above.

The Hansen et al. reference does not provide a motivation to crosslink cellulose with a crosslinking agent in the presence of a polyol since when a polyol such as sorbitol and a crosslinking agent such as citric acid are used independently in a crosslinking reaction the Whiteness Index is adversely affected. For example, when

cellulose is reacted with sorbitol the Whiteness Index decreases from 77.87(control) to 76.52 at the 6 % by weight level of sorbitol on cellulose; when cellulose is crosslinked with citric acid, the Whiteness Index decreases to 68.69 at the 8 % by weight level of citric acid on cellulose. Thus the skilled artisan would not be motivated to explore the combination yet when the combination is used, it has been surprisingly and unexpectedly discovered that Whiteness Index results are significantly increased. The reference does not teach the type of crosslinking agent nor the type and amount of polyol as in the instant invention. Hansen et al. is only an invitation to virtual endless experimentation. Hansen et al. give no guidance to the skilled artisan as to which binders or combination of binders from the group to select to achieve the instant invention. While Hansen et al. state that polyols, polyaldehydes, polycarboxylic acids and polyamines *can* crosslink, there is no guidance given as to which genus or species within the genus, in combination, can crosslink to arrive at the instant invention. Thus the skilled artisan would be required to perform virtually endless experimentation to arrive at the instant invention. Furthermore, Hansen et al. do not disclose bleaching the fibers, the Whiteness Index and the brightness.

Cook does not teach the bleaching of cellulose fibers crosslinked with a crosslinking agent in the presence of a 1-10 % by weight polyol on cellulose nor does he teach the Whiteness Index increase of at least one unit over the same unbleached fibers which have a Whiteness Index of at least 70. Cook only teaches that bleaching of the crosslinked fibers can improve brightness to 80- 86 from 70 – 75, column 3, line 49-52.

Smith et al. indicate that it is desirable that bleached pulp be used in their invention in which the fibers are first refined and then crosslinked. Smith et al. do not recognize the adverse effect on color as shown by Cook et al. in US 5562740 when using, for example, citric acid, column 3, line 33- 38 and the need for improving color post crosslinking. Since citric acid adversely affects color, malic acid would be expected to give the same results since it is an α -hydroxypolycarboxylic acid. Smith et al. do not teach crosslinking of cellulose in the presence of a polyol nor the fiber characteristics related to Whiteness Index after bleaching. Thus there is no motivation to a combine the references to arrive at the instant invention. Withdrawal of the rejection is respectfully requested.

The Rejection of Claim 6-8 Under U.S.C. 103(a)

Claims 6-8 are rejected under U.S.C. 103 (a) in view of Cook et al. and further in view of Hansen et al. (5,789,326).

Claims 6-8 are dependent on Claim 1.

The disclosure of Hansen et al, ('256) and Cook have been addressed above. Like the '256 disclosure, the '326 disclosure concerns polymeric and non-polymeric binders for fibers and the use of such binders in binding particles to fibers. In particular embodiments the invention concerns binding particles or superabsorbent particles to cellulosic fibers which may then be used, for example, to make absorbent fibers that are densified and incorporated into cellulosic products.

Binders form coordinate covalent bonds or hydrogen bonds. On the other hand polycarboxylic acid crosslinking agents can react with, for example, cellulose to form a covalent bond with cellulose. When this occurs, the crosslinking agent which may have been able to act as a binder also no longer has any binding capability.

In one aspect the Hansen et al. reference (the '326 patent) describes a wet laid web of fibers having hydrogen bonding functionality and the binder molecules having at least one functional group capable of forming a hydrogen bond or coordinate covalent bond with particles and at least one functional group capable of forming a hydrogen bond with the fibers column 3, lines 13-23. In another aspect the patent also describes high bulk fibers with hydrogen bonding functionality and similar binder characteristics.

The Examiner states that Hansen et al. ('326) discloses crosslinked cellulosic fibers comprising particle binders in the Abstract. For clarification, the reference in the Abstract refers only binding particles to cellulose fibers it does not refer to crosslinked fibers or the covalent bonds that occur when cellulose fibers are crosslinked with a crosslinking agent. The particles have functional groups capable of forming a hydrogen bond or coordinate covalent bond. The binders have at least one functional group capable of forming a hydrogen bond or coordinate covalent bond with the particles and at least one functional group capable of forming a hydrogen bond with the fibers.

The column 10 reference, lines 26-40 relates only to a method for binding particles to fibers. The fibers can be cellulosic or synthetic to which superabsorbent

particles are adhered by a binder. The '326 reference includes a combination of wood pulp and certain binders which are bulk fibers in roll form. The preferred bulk fibers are wood pulp fibers or softwood pulp fibers. The pulp fibers can be chemical, thermomechanical or chemithermomechanical or combinations of these. The preferred fiber is a chemical fiber and suitable fibers include wood pulp fibers obtained from the kraft and sulfite processes. Thus, contrary to the Examiner's statement the reference does not disclose crosslinked cellulosic fibers comprising particle binders. Furthermore, it does not refer to fibers crosslinked with a crosslinking agent in the presence of a polyol.

The column 45, lines 30 -33 reference relates to application of a crosslinking agent of a mat followed by fiberizing, drying and curing to form high bulk fibers. This reference also does not disclose crosslinking of cellulose fibers in the presence of a polyol, rather, a single crosslinking agent, *dimethyloldihydroxyethylene urea* is disclosed and is used alone. This reference is only used to show crosslinking of cellulosic fibers to produce high bulk fibers.

It is within the overall context of forming high bulk fiber with intrafiber covalent crosslinks, column 42, line 16 – column 46, line 32, that Hansen et al. state in column 45, lines 67- column 46, line 2 that particle binders and particles can be added before, after, or simultaneously with curing. Curing in the presence of a binder is not usually a problem because the binder cannot participate in the intra fiber crosslinking reaction and the binder is not affected by the curing step. In certain situations, however, the binder can function as a crosslinking agent and form covalent intrafiber crosslinks. *Polycarboxylic acids (such as citric) polyols (such as propylene glycol) and polyamines (such as ethylene diamine)* can function as crosslinking agents and are consumed during the curing step in the formation of covalent crosslinks, column 46, line 8-12. Sorbitol is only cited as a binder in Claims 3 and 4 as a non-polymeric binder that has at least one functional group capable of forming a hydrogen bond or coordinate covalent bond with particles having a hydrogen bonding or coordinate covalent bond forming functionality. As shown in the Stoyanov Declaration this polyol neither crosslinks cellulose nor does it increase the Whiteness Index or brightness in reaction with cellulose. Note that Hansen et al. do

not state that *combinations* of polyols, polycarboxylic acids and polyamines can be used for crosslinking. Rather, in the context of Example 24, column 45, line 37 and 38 where *dimethyloldihydroxyethylene urea* is applied to a mat (as a crosslinking agent), that Hansen et al. state that *polycarboxylic acids (such as citric) polyols (such as propylene glycol) and polyamines (such as ethylene diamine)* can function as crosslinking agents. That is, any one of these materials can be substituted, for example, for the *dimethyloldihydroxyethylene urea*. Accordingly in the limited case in which the crosslinking agent is also a binder, steps should be taken to prevent the binder from being consumed as a crosslinker in the curing step thus maintaining its binding ability. (Here again Hansen et al. do not state combinations of *a crosslinking agent and a polyol*). Hansen et al. state that the fibers should contain at least 20 % by weight water to retard curing so that adequate *binder functional groups* will remain in the fibers to bind the particles to the fibers, column 46, lines 18-26. Stated in another way, crosslinking with the binder destroys the binder and makes it unavailable to bind the particles, the very object of the Hansen et al. reference and therefore the skilled artisan would not look to the Hansen et al. reference for crosslinking which makes his invention inoperative. Applicants submit that even in these situations where the binder may act as a crosslinking agent, Hansen et al. do not teach the combination of a crosslinking agent and a polyol in the intrafiber crosslinking reaction to arrive at the instant invention of Claim 1. Neither do Hansen et al. disclose which polyol is in combination with which polycarboxylic acid and the level of polyol as in the instant invention. Furthermore, Hansen et al. is only an invitation to virtual endless experimentation. Hansen et al. give no guidance to the skilled artisan as to which binders or combination of binders from the group to select to achieve the instant invention. While Hansen et al. state that polycarboxylic acids, polyols and polyamines *can* crosslink, there is no guidance given as to which genus or species within the genus, in combination, can crosslink to arrive at the instant invention. Thus the skilled artisan would be required to perform virtually endless experimentation to arrive at the instant invention.

The '326 patent does not require either the binder or the crosslinking agent to be a polyol while the instant claims require a crosslinking agent and a polyol. In

addition, the Stoyanov Declaration shows that some polyols such as sorbitol and xylitol do not crosslink at the levels claimed nor do they improve the Whiteness Index over that of a control.

Neither of the Hansen et al. references provide a motivation to crosslink cellulose with a crosslinking agent in the presence of a polyol since when a polyol such as sorbitol and a crosslinking agent such as citric acid are used independently in a crosslinking reaction the Whiteness Index is adversely affected, particularly in the case of citric acid as shown in the Stoyanov Declaration. Thus the skilled artisan would not be motivated to explore the combination yet when the combination is used, it has been surprisingly and unexpectedly discovered that Whiteness Index results are significantly increased over a control sample. The references do not teach the type of crosslinking agent nor the type and amount of polyol as in the instant invention. The Hansen et al. references are only an invitation to virtual endless experimentation. They give no guidance to the skilled artisan as to which binders or combination of binders from the group to select to achieve the instant invention. While the Hansen et al. references state that polyols, polyaldehydes, polycarboxylic acids and polyamines *can* crosslink, there is no guidance given as to which genus or species within the genus, in combination, can crosslink to arrive at the instant invention. Thus the skilled artisan would be required to perform virtually endless experimentation to arrive at the instant invention. Furthermore, the Hansen et al. references do not disclose the Whiteness Index and the brightness. Withdrawal of the rejection is respectfully requested.

Cook does not teach the bleaching of cellulose fibers crosslinked with a crosslinking agent in the presence of a 1-10 % by weight polyol on cellulose nor does he teach the Whiteness Index increase of at least one unit over the same unbleached fibers which have a Whiteness Index of at least 70. Cook only teaches that bleaching of the crosslinked fibers can improve brightness to 80- 86 from 70 – 75, column 3, line 49-52.

Withdrawal of the rejection is respectfully requested.

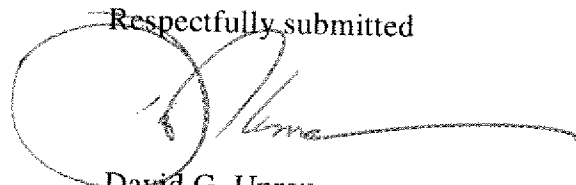
The Provisional Obvious Type Double Patenting Rejection

Claims 1-8 and 12-13 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5-8, 10-12 and 16-17 of copending application 10/748930. Applicants note the provisional double patenting rejection and will file a terminal disclaimer on the Examiner's indication of allowable subject matter.

CONCLUSION

In view of the, the amended claims and the foregoing remarks, applicants submit claims 1-10 and 13-16 are in condition of allowance. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone the applicant's agent.

Respectfully submitted

A handwritten signature in dark ink, appearing to read 'D. Unrau', is written over a circular stamp or seal.

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